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## MEDICAL INSPECTION OF PUBLIC SCHOOLS

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Within the past twenty-five or thirty years there has been produced a considerable literature on school hygiene, but much of this has dealt with the subject in a general way, without furnishing any definite plan for enforcing its requirements in practice. Systematic medical inspection of public schools is a regulation of comparatively recent establishment. It is perhaps fair to say that New York City alone, through the co-operation of its educational department, with its able department of health, had definitely committed itself to a policy that will admit of future expansion and eventually include oversight of the schools and school children.

Education should aim to develop good minds, good habits, good characters and good citizens, and this cannot be accomplished unless the mental training and the methods of education are directly influenced by the physical life and constitution of the individual child. The relation between the mental and the physical in school training appears plainly when the causes of dullness or other defects become subjects of investigation. In a report upon the mental condition of 50,000 school children in London, 1892-94, Dr. Francis has grouped the main classes of defects as follows:

- “(a) Defects in development of the body in size, form or proportion of parts.
- “(b) Abnormal nervous signs; certain abnormal actions, movements and balances.
- “(c) Low nutrition as indicated by a child being thin, pale or delicate.
- “(d) Mental dullness. Teachers' report of mental ability below average registered as dull.
- “(e) Eye cases, defects or disease.
- “(f) Rickets.
- “(g) Exceptional children.”

Children of school age are subject to attacks of certain diseases, which because of the possibility of transmission to others assume a public interest apart from the effect upon the individual child. New York, Philadelphia, Boston, Chicago, Baltimore and other cities maintain supervision of the schools for the purpose of preventing the spread of contagious disease. Broadly viewed, however, medical inspection embraces besides the examination of the child, the sanitation and hygiene of the building, its structure, ventilation, heating, lighting, plumbing, seating and cleaning; the printing and paper of books used; the proper use or non-use of slates, pencils and stationery, and the acoustic properties to save wear and tear of the voice.

Such inspection as has occurred has usually come directly through the board of health co-operating with the department of education. In Chicago the department of education is said to have more direct charge. Some five or six years ago, as a result of civil service examinations, fifty physicians were appointed medical inspectors of schools. Each inspector was given a district and required to visit the schools three times a week, but unfortunately this is said to have lasted but one year, and after that all but twelve of the inspectors were dropped. These are now employed as emergency inspectors, each being on duty ten months of the year, during which time he is expected to visit schools when sent for by the principal. The character of the cases inspected varies naturally according to the inclinations of the individual principals. Some principals send for the inspector to treat scabies or eczema; others only when there is a suspicion of diphtheria, scarlet fever or small-pox. The physicians are forbidden to visit the children in their homes. Although this medical inspection is under a superintendent of the board of education, that department seems to restrict its authority to arranging calls and the time of service in districts. The physicians refer all matters involving serious questions to the board of health.

In New York an investigation by an inspector of the department of health was made in October, 1896, to ascertain the part played by the schools in spreading contagious diseases. The schools from which cases of these diseases had been reported to the department were visited and an examination made of all children present in classes where sick children had been in attendance. Children

who were absent from the classes were visited at their homes to ascertain the cause of absence. This investigation showed that a great number of these children were sick with contagious diseases and that they had been directly infected in school rooms where conditions were most favorable to such results. These conditions included not only the presence of sick children but heat, overcrowding and other unsanitary surroundings. It was also found that children had continued in school when a member of the family was at home ill with some contagious disease. Others who returned to school after an absence of a day or two, confessing to a slight sore throat, were found, when submitted to a bacteriological test, to be affected with diphtheria. Investigation for measles and other diseases brought forth similar evidence of infection in the schools. The writer once saw a child who, after two weeks' absence from school on account of scarlet fever, had returned to class and was entertaining his fellow pupils by pulling the desquamating skin from his hands and fingers and passing it around for trophy. This and more detailed facts were embodied in a special report presented to the board of estimate, which at once appropriated money to pay one hundred and fifty inspectors, at the rate of \$30 per month.

In March, 1897, these inspectors were assigned to duty and the system was inaugurated. Each inspector was instructed to report before ten o'clock in the morning to examine all children whom the teacher had sent to his office (in the school building), and who were suspected of having anything contagious. This was a good beginning, but the inspection was, in fact, very superficial, and dependent upon the school teacher, who was naturally unable to detect symptoms, unless well marked. With the heavy weight of her class upon her, she was unable, however willing, to give close observation to the individual child. Although incomplete, this supervision was regarded, as it proved to be, a source of some advantage. The presence of a physician in the school had provided at least for the immediate disposal of the doubtful cases discovered by the teachers. The report of the first year's work showed, inspections, 108,628, exclusions for all diseases of an infectious or contagious nature, 6,829.

In June, 1902, an eminent eye specialist, member of the advisory board of the department of health, urged examination of the children in the schools for the detection of trachoma, a serious and

contagious eye disease. Sixteen trained oculists examined the children in thirty-five schools, with the following results:<sup>1</sup> Pupils examined, 55,470; found to have contagious ophthalmia, 6,770, or 12 per cent., as follows: severe trachoma, 2,328, or 4.2 per cent.; mild trachoma, 3,243, or 5.82 per cent.; acute conjunctiva, 1,099, or 1.98 per cent.

This examination, followed up by the earnest efforts of the health commissioners, resulted in important changes in the methods and routine of the service. Provision was made in September, 1902, in all the schools for the inspection and examination of every child by a medical inspector. Selection of about one-third was made from the men and women on the staff, and the salaries of inspectors were raised from thirty to one hundred dollars per month, the department demanding practically their whole time. From the opening of school, September 15th, to April 1st, five and one-half months, 5,381,616 inspections were made resulting in 57,986 exclusions. The following cases of disease were excluded during the quarter ending December 31st: Measles, 18; diphtheria, 140; scarlet fever, 13; whooping cough, 61; mumps, 9; trachoma, 12,647; pediculosis, 8,994; chicken-pox, 172; skin disease, 662; miscellaneous, 1,823; total, 24,538.

There was naturally much argument and protest against this "wholesale exclusion." The honestly administered health department was charged with demoralizing the department of education by emptying the school rooms. In some quarters the evidence of such extensive pediculosis was regarded as alarming. This, however, was not the view of the more intelligent. "It is no disgrace," said one physician quoted by Dr. Lederle, "for a child to be affected with head trouble, but it is a disgrace to have the trouble and not treat it." The most serious charge, however, was that neither the public nor the children were protected. The children excluded from school waited on the doorsteps to play with their classmates or romped with them through the halls of the tenement. Well meaning but overworked mothers were not able to properly care for their children. Indifferent or ignorant parents took no action, unscrupulous ones took this means to avoid the compulsory education law and avail

<sup>1</sup> The tables of diseases and statistics have been compiled from the reports of Dr. Lederle, Commissioner of Health, New York, 1902-04; Dr. Darlington, Commissioner since 1904; Dr. Cronin, Assistant Chief Medical Inspector; Miss Rogers, Superintendent of Nurses' Department of Health, and from the Eastern Public Education Association.

themselves of the child's service. From the child's point of view exclusion often amounted to permanent loss of education. The period of school life which for the poor child is limited by the law's demand (unless further diminished by violation) as a result of medical inspection, was shortened still more.

To meet the perplexities of this situation the Nurses' Settlement in Henry Street offered the services of one of its trained nurses for one month to assist the department in working out a practical plan. At the end of the month of twenty school days, six of which were Jewish holidays, when there were naturally a large number of absences, the nurse had cared for and treated 829 cases. Ninety-three children who had been absent and receiving no treatment returned to school, and 137 visits were made to the homes. At the conclusion of the month the medical inspector, principals and parents voted the plan of providing a nurse for the children a success and the board of estimate early in November appropriated money for the continuance of the work. It has since been enlarged until under the present administration there are assigned to this work a supervising nurse and thirty-four nurses, as follows: Manhattan, 20; Brooklyn, 10; Bronx, 1; Queens, 2; Richmond, 1.

With the advent of the nurse the objective point of medical inspection was reversed. Formerly when a child was sent home with a disease the case was considered closed, but under the new regulations it becomes the duty of the nurse to see that the case is properly treated. Practically all diseases except diphtheria, scarlet fever, measles, varicella, whooping cough, mumps and acute coryza are placed under treatment and returned to the class. The aim of the inspection is now to minimize the number of exclusions.

The routine established at the beginning has in its essential features been since maintained. The medical inspector must visit all schools assigned to him before ten o'clock each morning. This is called the morning visit, and consists in seeing all children isolated by the principal under suspicion of having some contagious disease, children who for reasons unknown have been absent from school for a certain number of days, and children excluded from school. After the morning inspections have been made the inspector returns to one of his schools for an examination of all children present. The physician enters the classroom, standing in a favorable position,

with his back to a window, and the children pass in procession before him; in passing the pupils pull down their own eyelids and open their mouths wide, while the physician examines eyes, throat, hair and hands, not, however, touching the pupils in the classroom. The children suspected of having trouble are taken out of the procession and ordered to the inspector's office in the school building for a more thorough examination. Those found to be suffering from pediculosis, eye or skin disease are allowed to return to class and are excluded at the next recess. Cases of measles, scarlet fever and the like are telephoned to the inspector of the central office of the department, and thus come under the district inspector, who visits the child at his home. If the diagnosis is not verified the district inspector reports to the school inspector, who orders the child back to school. Children absent from school for no known reason are visited and a great number of contagious diseases unreported to the department are thus discovered. From November 1, 1903, to May 12, 1904, 891 such cases were found, and this had also had the incidental effect of stimulating negligent physicians to report contagious cases.

The doctor is followed by the nurse, to whom all cases are sent with a diagnosis, in cipher. It was found necessary to use a code in order to save embarrassment to the children who were sent for unclean heads. To prevent classmates from obtaining too much information, pediculosis has several code numbers; for the same reason children who have nothing the matter with them are also sometimes sent to the office. The nurse receives definite prescriptions from the physician and gives treatment wherever possible in the place assigned to her in the school building, sending the child back to class immediately. After she has made her rounds in the school she visits the homes of the children who have been excluded, explaining the case to parents and, if necessary, making demonstrations. Where further medical attention is required, unless the family has its own physician, the nurse indicates places where clinics are to be held. Children without guardians to properly care for them are taken to dispensaries for treatment or operation. When a child is found to be totally uncared for the case is referred to the proper agencies for relief. One nurse reported after a year's experience but one exception to the rule of courteous treatment by the families.

The superintending nurse made the following report for the year 1904: Cases treated—pediculosis, 509,142; eye diseases, 204,-277; scabies, 1,448; ringworm, 18,808; impetigo, 3,619; sovus, 279; miscellaneous, 46,112; total, 783,685. Tenements visited, 27,010; schools visited, 26,703; miscellaneous, 964; total visits, 54,677.

An unexpected problem presented itself in the occasional refusal of children and parents to permit treatment. This was met by the district superintendent of schools co-operating with the district attorney, who declared that any parent who refused to put a child under proper treatment was committing a violation of the compulsory education law, and was punishable by fine. A test case was brought and the father fined ten dollars.

The success of this whole movement has been due in large part to the harmonious way in which the health department and the department of education have worked together toward the same end. Attention has already been called to the assistance which is rendered the board of health in discovering contagious diseases by the investigation of all cases of absence from school without known cause. Not only are many cases directly discovered in this way, but negligent physicians are at the same time stimulated to make prompt reports. On the other hand, the school inspection is facilitated by reporting daily to the schools all cases of contagious disease known to the department of health. For the nurses' work, supplies are furnished by the department of education upon requisition of the principals. The most intelligent co-operation naturally comes from those principals who have given the subject some thought and who, apart from the more specifically hygienic reasons, welcome a service which assists in keeping up attendance.

With improvement in the facilities for nurses' work more complete preventative measures can gradually be developed. Printed instructions about the care of the head are now given to the children in sealed envelopes, and provision for thorough examination by eye specialists for error of refraction will probably soon follow. In a recent limited investigation of 981 children, 30 per cent. showed refracted error in one or both eyes. In some communities where no medical board exists to perform such duty, annual examinations of the children's eyes have been made by the teachers. At a recent meeting of the American Medical Association, the following resolution was adopted:

"WHEREAS, The value of perfect sight and hearing is not fully appreciated by educators, and neglect of the delicate organs of vision and hearing often leads to disease of these structures; therefore be it

*"Resolved,* That it is the sense of the American Medical Association that measures be taken by Boards of Health, Boards of Education, and school authorities, and when possible legislation be secured looking to the examination of the eyes of the children, that disease in its incipiency may be discovered and corrected."

In New York the question of furnishing glasses is likely to arise, and when it does, may be expected to bring complications. Concerning the wisdom of such a policy, there would doubtless be some difference of opinion, but it is not difficult to predict that some fair and just provision will ultimately be effected. The proper position of the child, both standing and sitting, care of ears, teeth and other similar matters of cleanliness and health are all destined sooner or later to receive the public attention they deserve. Sanitation and care of school buildings, including the proper removal of dust must be provided for with greater care, even though it involve the education of the janitor. One of Boston's honored scientists has said, "So long as Boston pays one thousand dollars a year for feather dusters, her citizens cannot pose as reformers."

It is difficult to place a limit upon the service which medical inspection should perform. Many children suffer physical strain from the too great weight of books which they are carrying home; such cases are obviously proper subjects of medical attention. But what is to be done with children suffering from anæmia, under-feeding and who are consequently unable to assimilate the education provided for them? Is there not here involved a question to which the state should give its attention? In too many cases the child returns to school after the noon recess without having partaken of a noon meal. If provision were made that this time should be spent in the school, a suitable hot meal approved by the medical inspector would seem to be an appropriate provision. The state recognizes its responsibility for the development of citizens. To meet this responsibility, the school is its most efficient agency. If for safe-guarding the state, mental training is made compulsory, is it not logical to conclude that physical development—the sound body as well as the sound mind—should as far as possible be de-

manded? From the obligation to cure to the obligation to prevent is but a single advance step in the growth of civic conscience. Adequate and intelligent medical inspection would perhaps meet with less resistance if regarded, not as reform, but rather as a natural development of ideas held by the founders of the republic who placed the school on the same level with the home in responsibility for the maintenance of good citizenship.